INVESTIGATOR'S ANNUAL REPORT

National Park Service

All or some of the information provided may be available to the public

Reporting Year: 1995	**Park:** Shenandoah NP
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Permit#:
SHEN1995ANOE

Park-assigned Study Id. #:
unknown

Project Title:
Shenandoah Watershed Study (Swas)

Permit Start Date: Jan 01, 1998	**Permit Expiration Date** Jan 01, 1998
Study Start Date: Jan 01, 1979	**Study End Date** Jan 01, 1999

Study Status:
Completed

Activity Type:
Other

Subject/Discipline:
Other

Objectives:
1) Evaluation and interpretation of hydro-biogeochemical conditions in watershed systems and streams in Shenandoah National Park (SNP).;2) Baseline monitoring and detection of change in hydro-biogeochemical conditions in SNP watershed ecosystems.

Findings and Status:
SNP receives an acidic deposition load estimated to be ten time the preindustrial level. Stream and watershed systems in large areas of SNP are poorly buffered against effects of acid deposition. Acidification of streams in SNP is delayed by processes that retain sulfate in watershed soils. Increasing sulfate concentrations have been observed in two steams, Deep Run and White Oak Run, during the course of SWAS monitoring. Recent data indicate that defoliation of SNP watersheds by the gypsy moth is resulting in substantially increased concentrations of dissolved nitrate in associated stream waters. Initial analysis indicates that this effect is contributing to episodic stream-water acidification and alteration of acid-base in SNP watersheds.

For this study, were one or more specimens collected and removed from the park but not destroyed during analyses?
No

Funding provided this reporting year by NPS: 52276	**Funding provided this reporting year by other sources:** 0

Fill out the following ONLY IF the National Park Service supported this project in this reporting year by providing money to a university or college

Full name of college or university:	**Annual funding provided by NPS to university or college this reporting year:**

n/a	0